

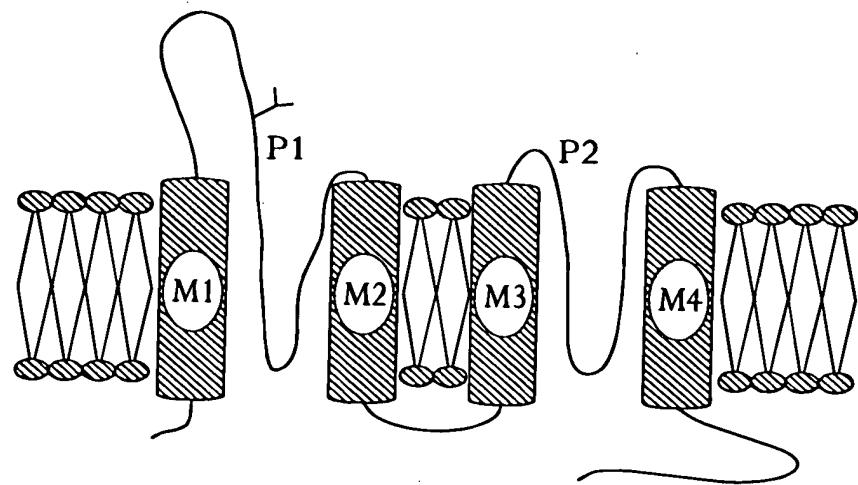
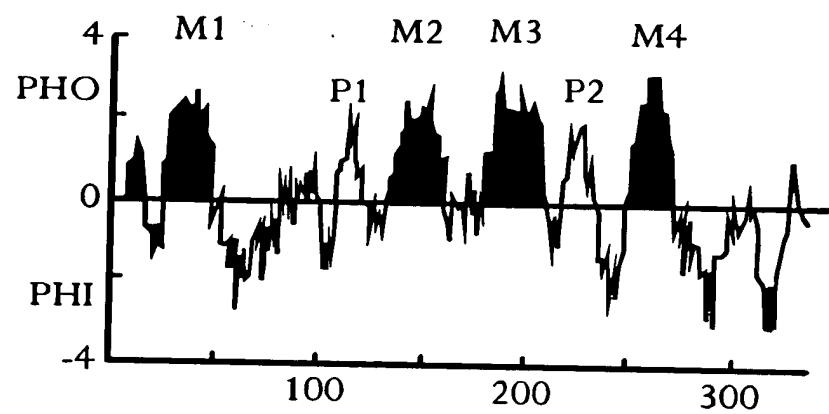
FIG. 1A

ggggcggggcggggcgccgcggggagcgggcggcggagccaggccggggcggggggcggggggccag-	gggcagaagacggcgctgccggaggagc	-153
aagaggcggcggggccgcgtccggccgtctcgccgttggcttgcttgccggcggtggagaag	-77	-1
ATG CTG CAG TCC CTG GCC GGC AGC TCG TGC GTG CGC CTG GTG GAG CGG CAC CGC TCG	ATG CTG CAG TCC CTG GCC GGC AGC TCG TGC GTG CGC CTG GTG GAG CGG CAC CGC TCG	57
M L Q S L A G S S C V R L V E R H R S	M L Q S L A G S S C V R L V E R H R S	19
GCC TGG TGC TTC GGC TTC CTG GTG CTG GGC TAC TTG CTC TAC CTG GTC TTC GGC GCA	GCC TGG TGC TTC GGC TTC CTG GTG CTG GGC TAC TTG CTC TAC CTG GTC TTC GGC GCA	114
A W C F G F L V L G Y L L Y L V F G A	A W C F G F L V L G Y L L Y L V F G A	38
GTG GTC TTC TCC TCG GTG GAG CTG CCC TAT GAG GAC CTG CTG CGC CAG GAG CTG CGC	GTG GTC TTC TCC TCG GTG GAG CTG CCC TAT GAG GAC CTG CTG CGC CAG GAG CTG CGC	171
V V F S S V E L P Y E D L L R Q E L R	V V F S S V E L P Y E D L L R Q E L R	57
AAG CTG AAG CGA CGC TTC TTG GAG GAG CAC GAG TGC CTG TCT GAG CAG CAG CTG GAG	AAG CTG AAG CGA CGC TTC TTG GAG GAG CAC GAG TGC CTG TCT GAG CAG CAG CTG GAG	228
K L K R R F L E E H E C L S E Q Q L E	K L K R R F L E E H E C L S E Q Q L E	76
CAG TTC CTG GGC CGG GTG CTG GAG GCC AGC AAC TAC GGC GTG TCG GTG CTC AGC AAC	CAG TTC CTG GGC CGG GTG CTG GAG GCC AGC AAC TAC GGC GTG TCG GTG CTC AGC AAC	285
Q F L G R V L E A S N Y G V S V L S N	Q F L G R V L E A S N Y G V S V L S N	95
GCC TCG GGC AAC TGG AAC TGG GAC TTC ACC TCC GCG CTC TTC TTC GCC AGC ACC GTG	GCC TCG GGC AAC TGG AAC TGG GAC TTC ACC TCC GCG CTC TTC TTC GCC AGC ACC GTG	342
A S G N W N W D F T S A L F F A S T V	A S G N W N W D F T S A L F F A S T V	114
CTC TCC ACC ACA GGT TAT GGC CAC ACC GTG CCC TTG TCA GAT GGA GGT AAG GCC TTC	CTC TCC ACC ACA GGT TAT GGC CAC ACC GTG CCC TTG TCA GAT GGA GGT AAG GCC TTC	399
L S T T G Y G H T V P L S D G G K A F	L S T T G Y G H T V P L S D G G K A F	133
TGC ATC ATC TAC TCC GTC ATT GGC ATT CCC TTC ACC CTC CTG TTC CTG ACG GCT GTG	TGC ATC ATC TAC TCC GTC ATT GGC ATT CCC TTC ACC CTC CTG TTC CTG ACG GCT GTG	456
C I I Y S V I G I P F T L L F L T A V	C I I Y S V I G I P F T L L F L T A V	152
GTC CAG CGC ATC ACC GTG CAC GTC ACC CGC AGG CCG GTC CTC TAC TTC CAC ATC CGC	GTC CAG CGC ATC ACC GTG CAC GTC ACC CGC AGG CCG GTC CTC TAC TTC CAC ATC CGC	513
V Q R I T V H V T R R P V L Y F H I R	V Q R I T V H V T R R P V L Y F H I R	171
TGG GGC TTC TCC AAG CAG GTG GTG GCC ATC GTC CAT GCC GTG CTC CTT GGG TTT GTC	TGG GGC TTC TCC AAG CAG GTG GTG GCC ATC GTC CAT GCC GTG CTC CTT GGG TTT GTC	570
W G F S K Q V V A I V H A V L L G F V	W G F S K Q V V A I V H A V L L G F V	190
ACT GTG TCC TGC TTC TTC ATC CCG GCC GCT GTC TTC TCA GTC CTG GAG GAT GAC	ACT GTG TCC TGC TTC TTC ATC CCG GCC GCT GTC TTC TCA GTC CTG GAG GAT GAC	627
T V S C F F I P A A V F S V L E D D	T V S C F F I P A A V F S V L E D D	209

**FIG. 1B-1**

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L G L I A M L V V L E T	266
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA	gcgttaggattttgtgcatt 1030
T Q S S A C V D G P A N H *	337
atgctagagcaccagggtcagggtcagaaggaaagaggcttaagtatgttcattttatcagaatgcaaaaagcgaaaa	1106
ttatgtcacttaagaaatagctactgtttcaatgtcttattaaaaaacaacaaaaagacacatggaacaaag	1182
aagctgtgacccagcaggatgtctaatatgtgagaaatgagatgtccacctaaattcatatgtgacaaaatta	1258
tctcgacctacataggaggagaatacttgaagcagtatgtctgtgttttagatcattttatgttactttttact	1334
ggaaactttgggtttgcatttagatcatttagtgcattttatgttactgttgcattttatgttactttttact	1410
aaagcatagagatgtgtttataatagttatgttactgttactgttgcattttatgttactttttact	1486
gagaatctaagtcaaaactcactattataatgcattttatgttactgttactgttactttttact	1562
tatattctgtacatatgttttaggtcaccagatcctagtgttagttctgaaactaagactatagatattttgtttct	1638
tttgcattttttataactaaagaatccagagttgcataataaaaaaaaagggaaataataaaaaaaa	1712

FIG. 1B-2



**FIG. 1C**

	1	14	27
TWIK-1 P1	FTSALEF	ASTV	TV
TWIK-1 P2	LESFYEC	STT	ELSDG
TOK1 P2	YFNCIYFC	STT	LGDYVP
TOK1 P1	YGNALYF	CTVSEL	GEGYN
Slo	YWT	TVGLGDT	PRIGAS
Shaker	TCVYFL	TVG	PKSVGA
Shab	IPDAFWW	GYGD	YETVLG
Shal	WAGIT	DMTP	PGFWG
Shaw	IPFAFWW	VG	IPTTALG
KAT1	YVTAI	YGD	YGDMDV
AKT1	YVTS	DMV	PETEAG
eag	LYWSIT	MARKTY	IRLGLWMA
ROMK1	TTG	IG	IVTMT
IRK1	GYG	GYGD	TVGYGD
GIRK1	MTSA	DM	TT
	LEFS	DT	TT
	EQV	GYG	OMT
	FRF	FR	SVGE
	VTE	GY	GNVAA
	QCA	ET	ETDNE
	FTA	GY	TD
	AEL	GY	DKC
	ELF	GY	CP
	FIET	GY	IT
	EA	GY	DK
		YR	CP
		IT	
		TD	
		KC	

FIG. 2A

TWIK-1	1	MLQSELAGSSCVREVE-----RHREAWCF--G	-----LYDGY
f17c8	1	MYTDEGEYSGD TDHGGSIMQKMSPNTRQNFRQNVVVV	CISAAEELI
M110-2	1	MTVSMEENSKIDOMESATSKDKKVATDR\$LLNKVHLGPIALHTGIVSC	
TWIK-1	31	LEYLMFGAVVFSWELPYEELLRDE-----LRKIKRRFLEEHEC---L	
f17c8	47	LWENLIGAGEF-----YIAETONSSSES	
M110-2	49	WTYALGGAYEFLSIEHP-EELKPRREKAIREFQDLKOQEMGNITSGIEN	
TWIK-1	71	SEQDQEORLGRVDE-----EAENYGVSVDSNASGNWNW-----DESSAEN	
f17c8	69	LNENSEV--SKCLHNLPIGGKITAEMKSKEGKCTIKSSRIDGECKA	
M110-2	96	SEQSEEEYTKKELMLEDAHNAHAEYFFLNHEIPKDMW-----TESSAEN	
		P1	
TWIK-1	110	FASTVYSTIGYHTVPESDGGKAFCT-----YSMEGIPPTLAFITAVVORI	
f17c8	115	FSWTEYSTVGYGSIPHSPLGRYETLF-----YSLLMIPVFEAFKFEFGCTEL	
M110-2	142	FTWTTVTPVGYGYEPPVSAVGR-MCIAAYAALGIPITLVTMADTGKA	
TWIK-1	157	TVH---VTRRPVD-----YDHERWGESKOVVALYHAVLLGEATVSCFF	
f17c8	162	AHFLVVVSNRTREAVKKAYKES-ONPENAEAPSNSLQHDYIIFLSSI	
M110-2	189	AQL---VTR-----W-FGDNNNMAIPAAIFV-----CIL	
		P2	
TWIK-1	197	FI-PAAVFS-----VL-EDDWNEPLESEKFCFISESTTIGECDYVRGEGYN	
f17c8	209	LCSESIELSSAELFSSIENISYLSSSVYEGETTMELIDIGDIPPTN---	
M110-2	213	FAYPLAVGF-----ALCSTSNTIYLDSSVYFSLTSLETTIGFGDITP-----	
TWIK-1	239	QKFRELYKIGEICYLGLIAMEAVVDETFC-----EELHEKKR	
f17c8	254	-----EVWFGYGYCMLFLISDV-SNQTFYFCQARYVYFFELARKS	
M110-2	253	---DMNVINHMVLFLAVGVILVTTEDIVA---AEMIDRVHNYMGRHYG	
TWIK-1	278	-----KMFYVKKDKDEDDQHDEHDQ-----SF\$SETDOAAGMKED	
f17c8	295	LLRE-EDDGFOLETTVSEQHEPINNSOCMPS-----VALDCEKEELND	
M110-2	294	KAKELLAGKMFQLAQSENAMKQGLVSGVGQIHALAREGMIYGREENYDKTQ	
TWIK-1	315	QKONEPFVAT-----Q\$SACVIGPANH-----	
f17c8	338	EKLISSSLST-----	
M110-2	342	EDGLIAESPVDMDGLEFMDTLSIYSRRS\$RRSAENSAFNLF	

FIG. 2B

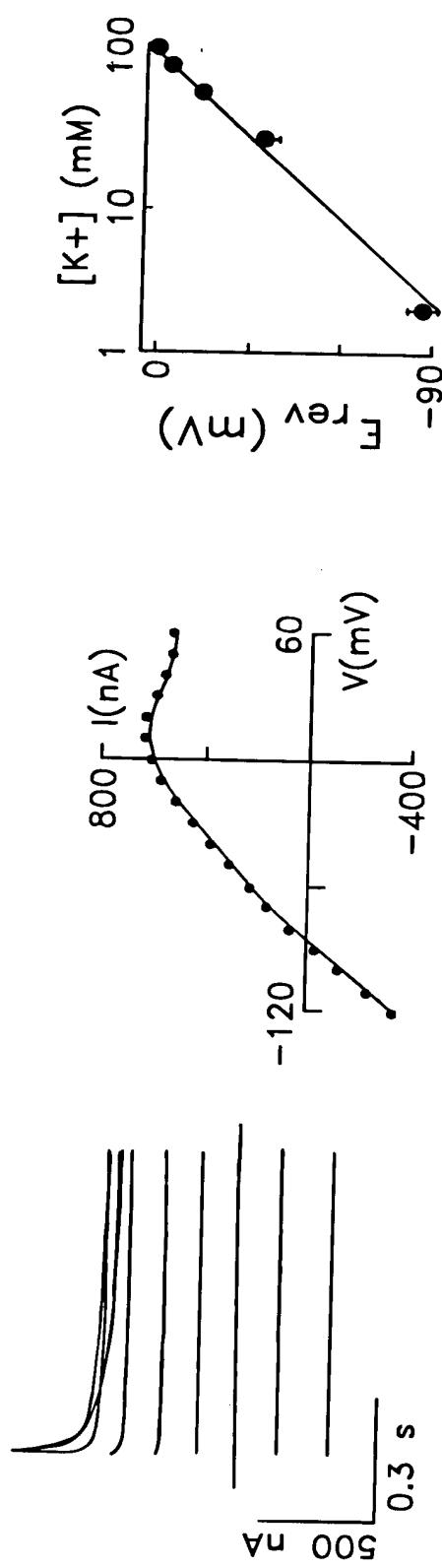


FIG. 3A

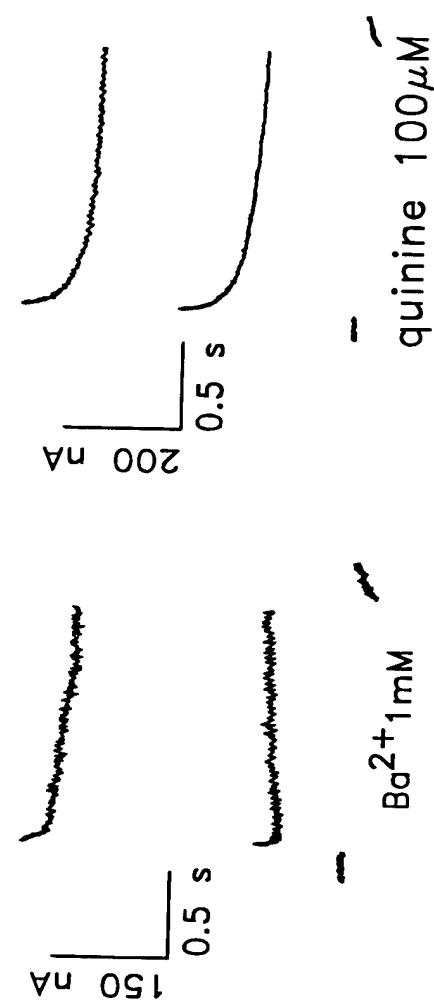


FIG. 3B

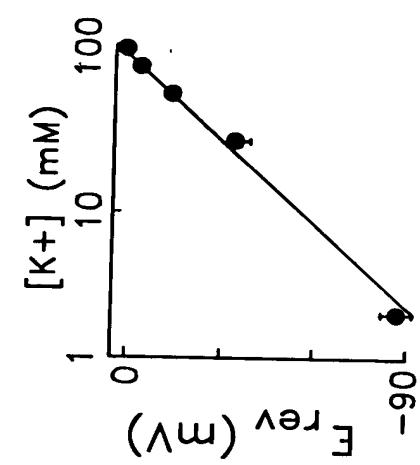


FIG. 3C

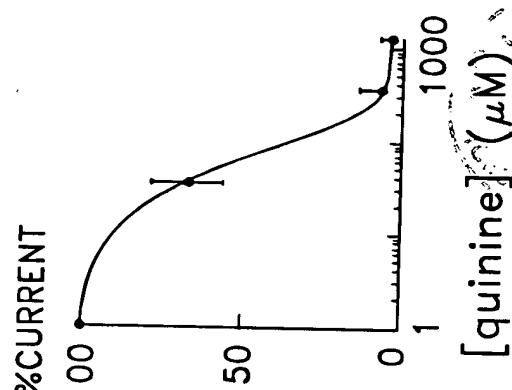


FIG. 3D



FIG. 3E



FIG. 3F

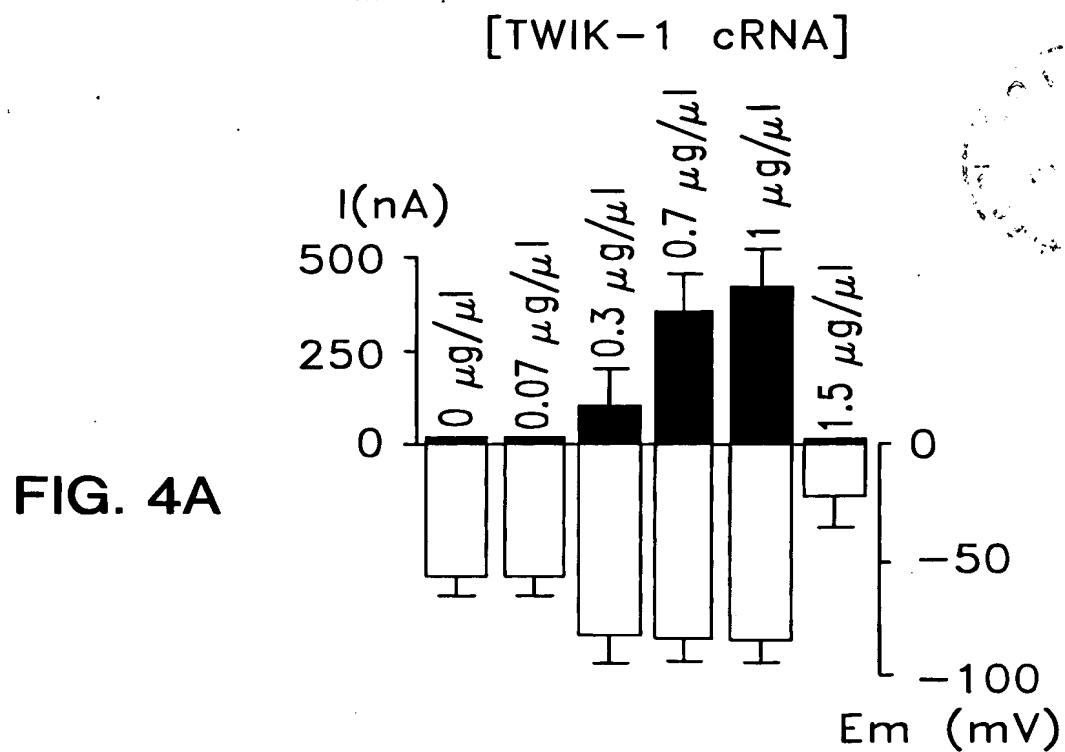


FIG. 4A

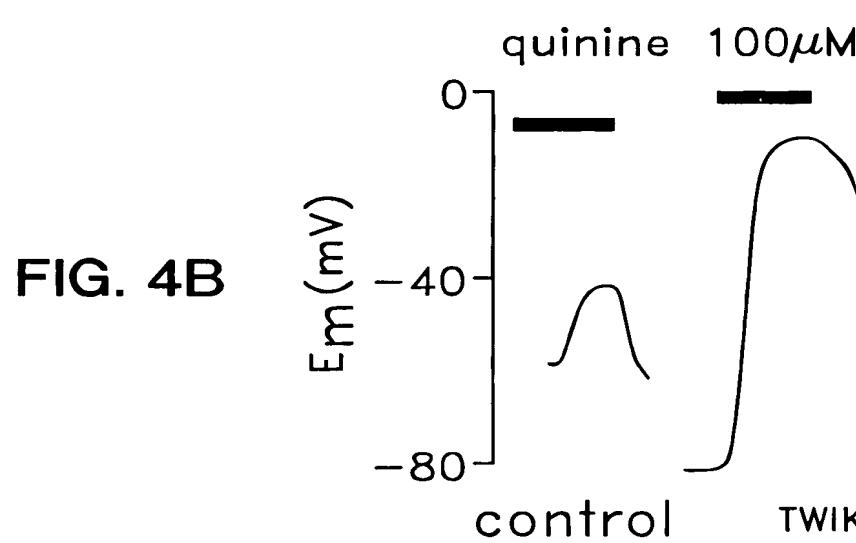


FIG. 4B

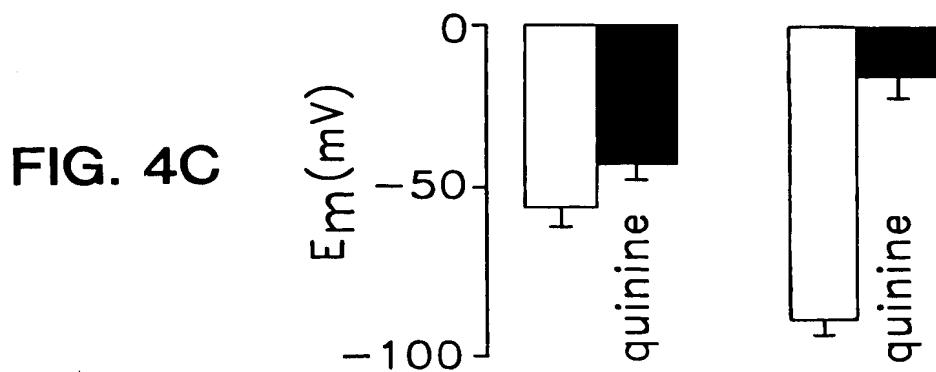


FIG. 4C

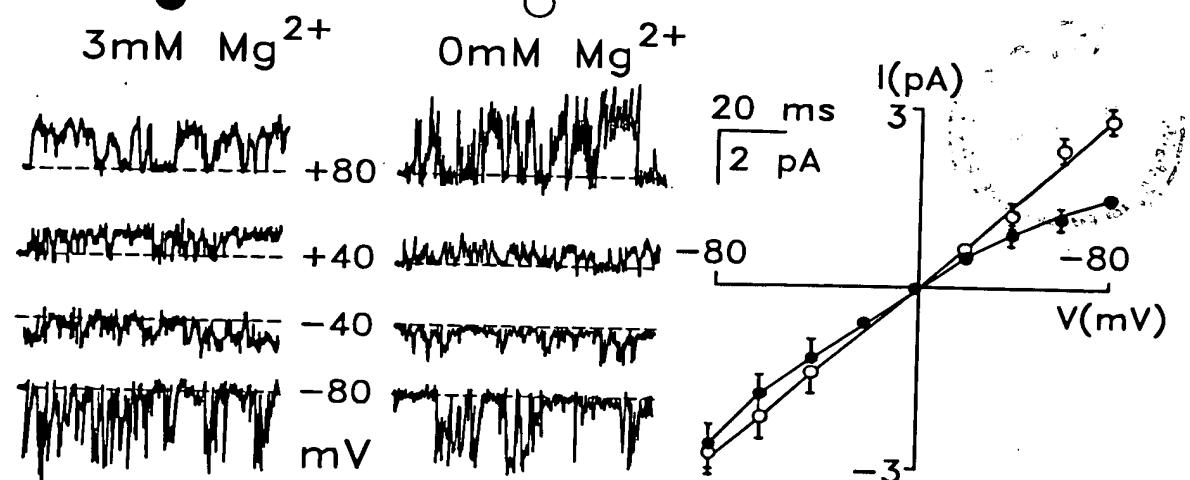


FIG. 5A

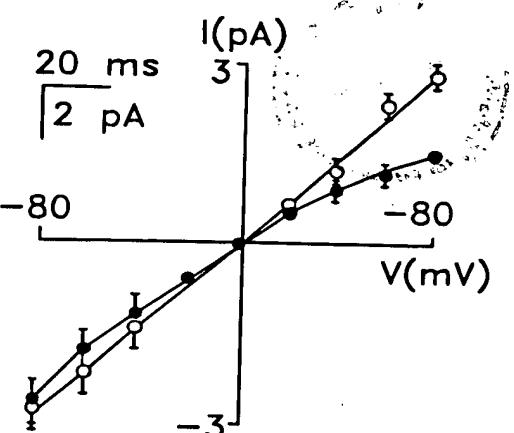


FIG. 5B

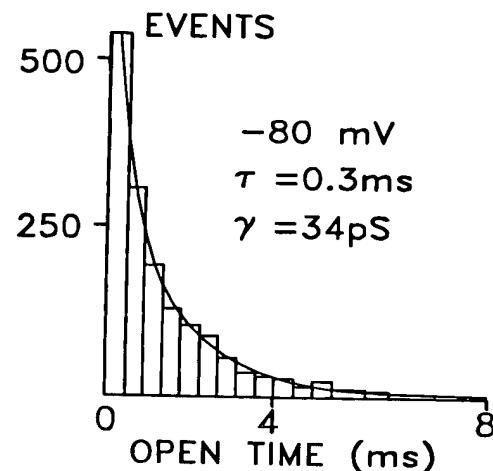
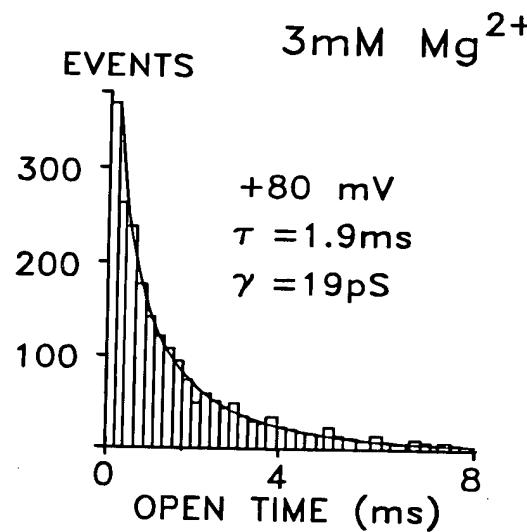


FIG. 5C

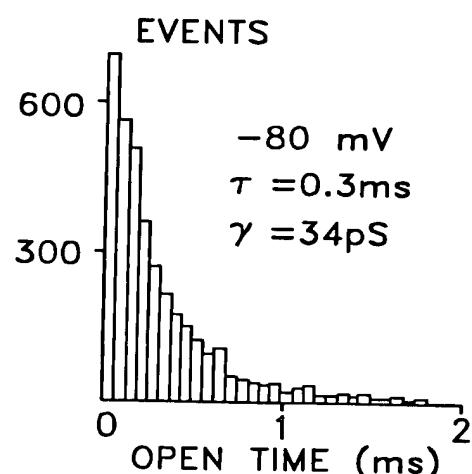
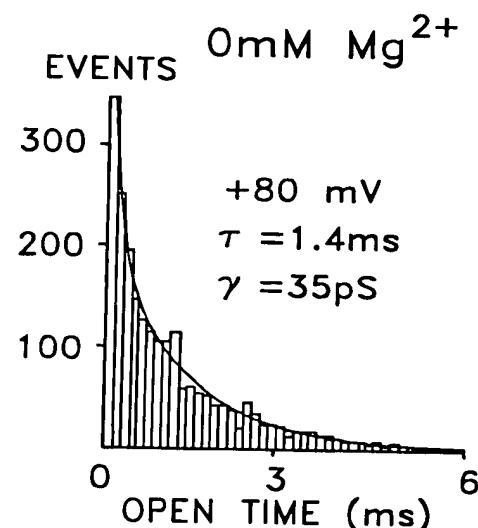


FIG. 5D

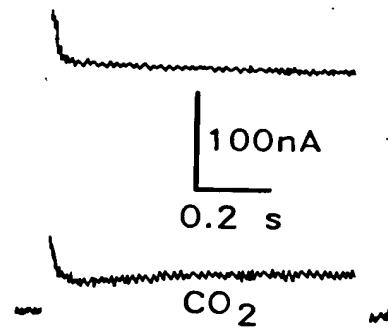


FIG. 6A

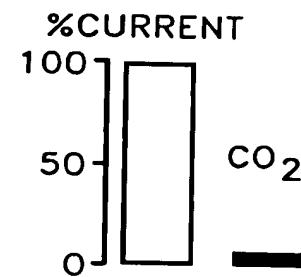


FIG. 6B

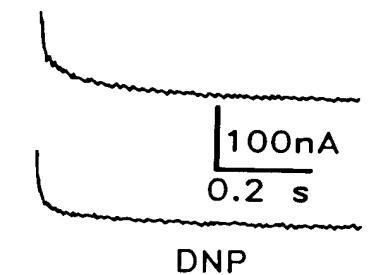


FIG. 6C

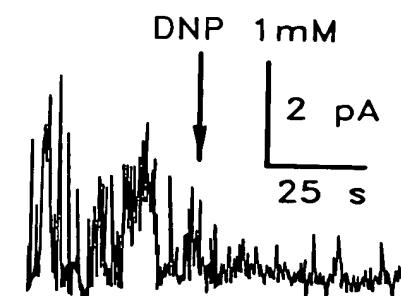


FIG. 6E

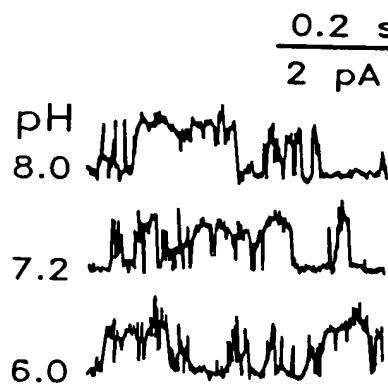


FIG. 6G

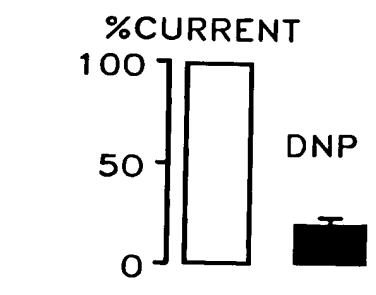


FIG. 6D

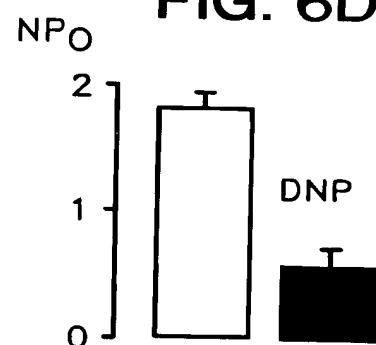


FIG. 6F

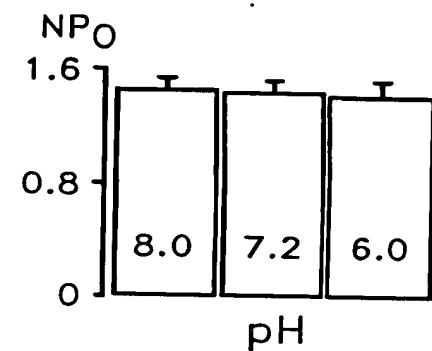


FIG. 6H

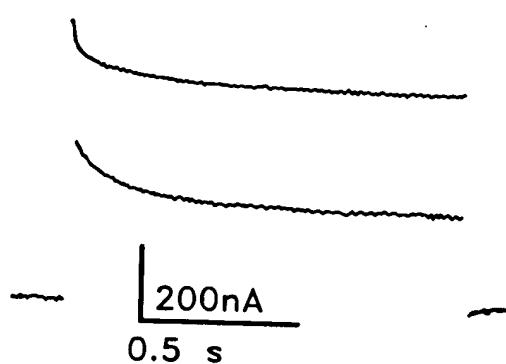


FIG. 7A

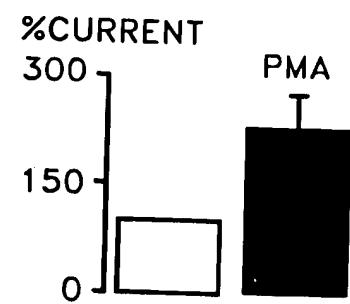


FIG. 7B

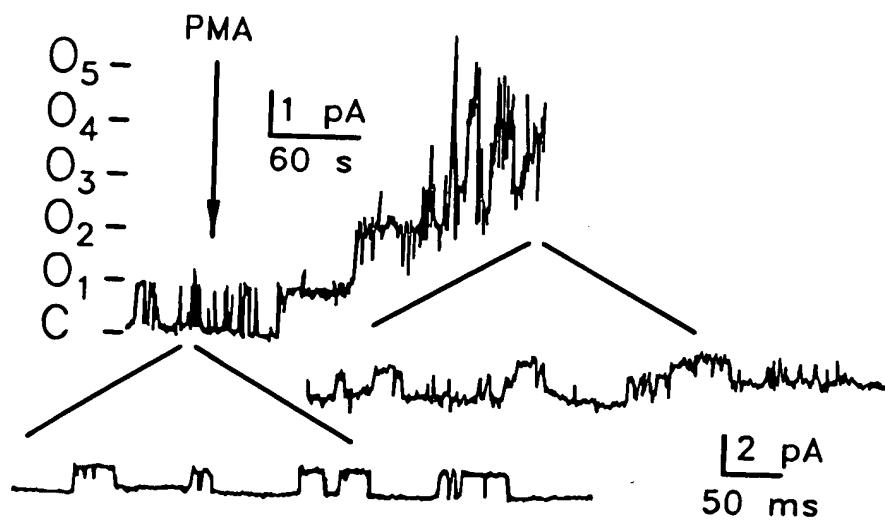


FIG. 7C

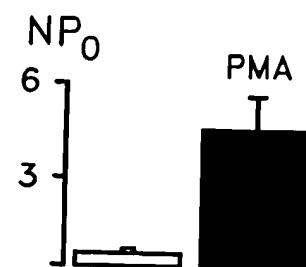


FIG. 7D

tgccctgcgcggatagcggcggcagccatgccccaggccgcctccg -77  
 gggcagcagcagcggcggccggccatgcgcggccggggccggcggccggcggacg -1

ATG	AAG	CGG	CAG	AAC	GTG	CGC	ACG	CTG	GCG	CTC	ATC	GTG	TGC	ACC	TTC	ACC	TAC	CTG	57
M	K	R	Q	N	V	R	T	L	A	L	I	V	C	T	F	T	Y	L	19
	E	N	V	R	T	L	A	L	I	V	C	T	F	T	Y	L			
CTG	GTG	GGC	GCC	GCG	GTC	TTC	GAC	GCG	CTG	GAG	TCG	GAG	CCC	GAG	CTG	ATC	GAG	CGG	114
L	V	G	A	A	V	F	D	A	L	E	S	E	P	E	L	I	E	R	38
L	V	G	A	A	V	F	D	A	L	E	S	E	P	E	M	I	E	R	
CAG	CGG	CTG	GAG	CTG	CGG	CAG	CAG	GAG	CTG	CGG	GCG	CGC	TAC	AAC	CTC	AGC	CAG	GGC	171
Q	R	L	E	L	R	Q	Q	E	L	R	A	R	Y	N	L	S	Q	G	57
Q	R	L	E	L	R	Q	L	E	L	R	A	R	Y	N	L	S	E	G	
*																			
GGC	TAC	GAG	GAG	CTG	GAG	CGC	GTC	GTG	CTG	CGC	CTC	AAG	CCG	CAC	AAG	GCC	GGC	GTG	228
G	Y	E	E	L	E	R	V	V	L	R	L	K	P	H	K	A	G	V	76
G	Y	E	E	L	E	R	V	V	L	R	L	K	P	H	K	A	G	V	
CAG	TGG	CGC	TTC	GCC	GGC	TCC	TTC	TAC	TTC	GCC	ATC	ACC	GTC	ATC	ACC	ACC	ATC	GGC	285
Q	W	R	F	A	G	S	F	Y	F	A	I	T	V	I	T	T	I	G	95
Q	W	R	F	A	G	S	F	Y	F	A	I	T	V	I	T	T	I	G	
TAC	GGG	CAC	GCG	GCA	CCC	AGC	ACG	GAT	GGC	GCC	AAG	GTG	TTC	TGC	ATG	TTC	TAC	GCG	342
Y	G	H	A	A	P	S	T	D	G	G	K	V	F	C	M	F	Y	A	114
Y	G	H	A	A	P	S	T	D	G	G	K	V	F	C	M	F	Y	A	
CTG	CTG	GGC	ATC	CCG	CTC	ACG	CTC	GTC	ATG	TTC	CAG	AGC	CTG	GGC	GAG	CGC	ATC	AAC	399
L	L	G	I	P	L	T	L	V	M	F	Q	S	L	G	E	R	I	N	133
L	L	G	I	P	L	T	L	I	M	F	Q	S	L	G	E	R	I	N	
ACC	TTG	GTG	AGG	TAC	CTG	CTG	CAC	CGC	GCC	AAG	AAG	GGG	CTG	GGC	ATG	CGG	CGC	GCC	456
T	L	V	R	Y	L	L	H	R	A	K	K	G	L	G	M	R	R	A	152
T	E	V	R	Y	L	L	H	R	A	K	R	G	L	G	M	R	H	A	
GAC	GTG	TCC	ATG	GCC	AAC	ATG	GTG	CTC	ATC	GGC	TTC	TTC	TCG	TGC	ATC	AGC	ACG	CTG	513
D	V	S	M	A	N	M	V	L	I	G	F	F	S	C	I	S	T	L	171
E	V	S	M	A	N	M	V	L	I	G	F	V	S	C	I	S	T	L	
TGC	ATC	GGC	GCC	GCC	TTC	TCC	CAC	TAC	GAG	CAC	TGG	ACC	TTC	TTC	CAG	GCC	TAC	570	
C	I	G	A	A	A	F	S	H	Y	E	H	W	T	F	F	Q	A	Y	190
C	I	G	A	A	A	F	S	X	Y	E	B	W	T	F	F	Q	A	Y	
TAC	TAC	TGC	TTC	ATC	ACC	CTC	ACC	ACC	ATC	GGC	TTC	GGC	GAC	TAC	GTG	GCG	CTG	CAG	627
Y	Y	C	F	I	T	L	T	T	I	G	F	G	D	Y	V	A	L	Q	209
Y	Y	C	F	I	T	L	T	T	I	G	F	G	D	Y	V	A	L	Q	
AAG	GAC	CAG	GCC	CTG	CAG	ACG	CAG	CCG	CAG	TAC	GTG	GCC	TTC	AGC	TTC	GTC	TAC	ATC	684
K	D	Q	A	L	Q	T	Q	P	Q	Y	V	A	F	S	F	V	Y	I	228
K	D	Q	A	L	Q	T	Q	P	Q	Y	V	A	F	S	F	V	Y	I	
CTT	ACG	GGC	CTC	ACG	GTC	ATC	GGC	GCC	TTC	CTC	AAC	CTC	GTG	GTG	CTG	CGC	TTC	ATG	741
L	T	G	L	T	V	I	G	A	F	L	N	L	V	V	L	R	F	M	247
L	T	G	L	T	V	I	G	A	F	L	N	L	V	V	L	R	F	M	

FIG. 8A

**FIG. 8B**

1	-----	ML QSLAGSSCVR	-----	LVERHRS-----
1	MAAPD	ILDPKSAAQNSKPRLSFSSKPTVLASRVESDSA		
1	-----	MKR	-----	Q-NVR-----
M1				
TWIK-1	20	-----	AW C FG - F L L G A L Y L V G A V V F S S V E L P Y E D L L	
TREK-1	39	IN VM K W	K T V S T I F L V V V L Y L I G A A V F K A L E Q P Q E I S O	
TASK	8	-----	T I A L I V C T S Y L L G A A V F D A L E S E P E D I E	
M2				
TWIK-1	53	-----	R Q E L R K L K R R F L E P H E C U S P Q O L E Q G L G R V L E A S N Y G Y	
TREK-1	77	R T T I V I Q K Q T F I A Q H A C U S T E L Q E L L Q O Q V A A I N A G I		
TASK	38	R O R L E R R Q O E D R A R Y N L S Q G G - Y E E L E R V V L R L K P H K A		
M3				
TWIK-1	91	S V L S N A S G - N W W D F T S A F F A S T V L S T F G Y G H I P D S		
TREK-1	115	I P L G N S S N Q V S H W D E S S F F F A G T V I T T I G E G N I S P E T		
TASK	75	-----	V Q - W R E A S F Y F A H T V I T T I G Y G H A P S T	
M4				
TWIK-1	128	D G G K A F C I I Y S V I G I P E T L I F L T V V E R I T V H V T R - - R		
TREK-1	153	D G G K A F C I I Y A L L G I P L R C E L L A C V G D Q I G T I F G K G I A		
TASK	104	D G G K A F C I I Y A L L G I P L T L V E P Y B I G E R I N T D V R Y - - -		
P1				
TWIK-1	164	P V L Y F H I R W G E S K O V V I T H V L E G F V V V C F E S I P A A		
TREK-1	191	K V E D V F I K W N S Q K I R I I S P I E L F G C V I F V A P A Y		
TASK	139	L I H R A K K G E G M R R A D V S M A N M V L I G E F C I C I G I C S A		
P2				
TWIK-1	202	V F S V I E E D W N F L E S F Y F C F I S L T I G L G D Y V P G E - G Y N		
TREK-1	229	I F K H E G Q - N S N L D A D Y F I T L T T I G F G D Y V A G - - G S Q		
TASK	177	A F S H Y E H - W T E R O A X V Y C F I T L T T I G F G D Y V A F G K D Q A		
P3				
TWIK-1	239	Q K E R E L Y K I G I T C Y E L L G L I A M I V V L E T F C E G H E E K K F		
TREK-1	264	I E Y L D E Y K E V V A N W I L V G L A Y F A A V L S M I G D W I R V I S K		
TASK	214	I O T Q P Q Y V A E S E V I L T G L T V I G A R L N L V V L R F M T M N A		
P4				
TWIK-1	277	R K M F Y V K K D K D - - - - -		
TREK-1	302	X T K E E V G E F R - - - - -		
TASK	252	E D E K R D A E H R A L L T R N G Q A G G G G G S A H T T D T A S S T A		
P5				
TWIK-1	288	-----	ED Q V H I I E H D Q L S F S S I T D Q A A G M K - - -	
TREK-1	312	-----	A H A A E W T A N V T A E E K E T R R R L S V E I - - -	
TASK	290	A A G G G G F R N V Y A E V L H F Q S M C S C L W Y K S R E K L Q Y S I P M		
P6				
TWIK-1	313	-----	ED Q K Q N E P F V A T Q S S A C V Y G P A N H - - - - -	
TREK-1	337	-----	Y D K F O R A T S V K R K L S A E E G N H N Q E L T P C M R T C L - - -	
TASK	328	I I P R D L S T S D T C V E Q S H S S P G G G G R Y S B T P S R R C L C S G		
P7				
TWIK-1	337	-----		
TREK-1	371	-----		
TASK	366	A P R S A I S S V S T G L H S L S T F R G L M K R R S S V		

FIG. 9A

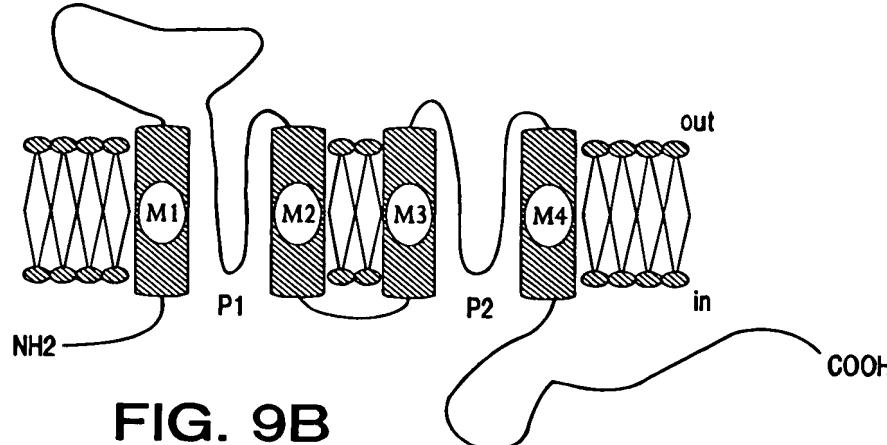


FIG. 9B

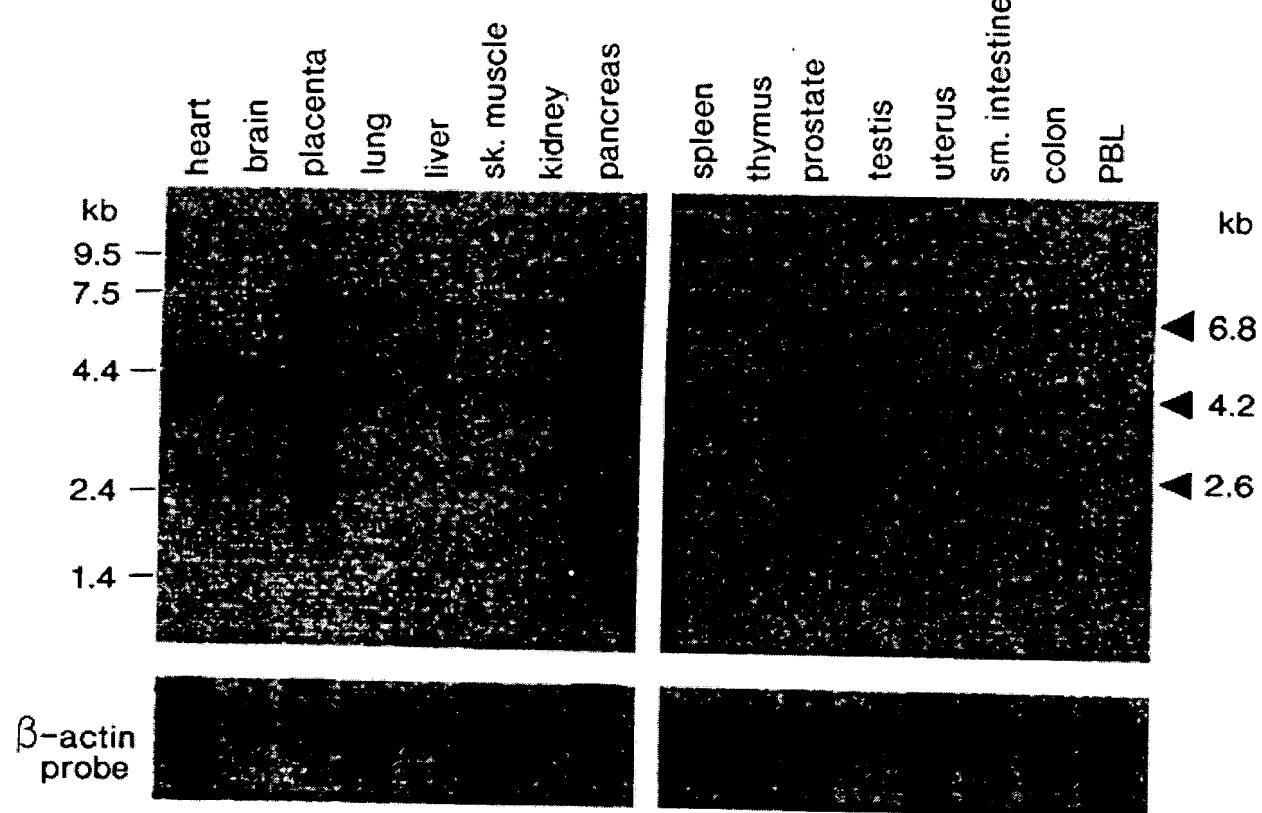


FIG. 10

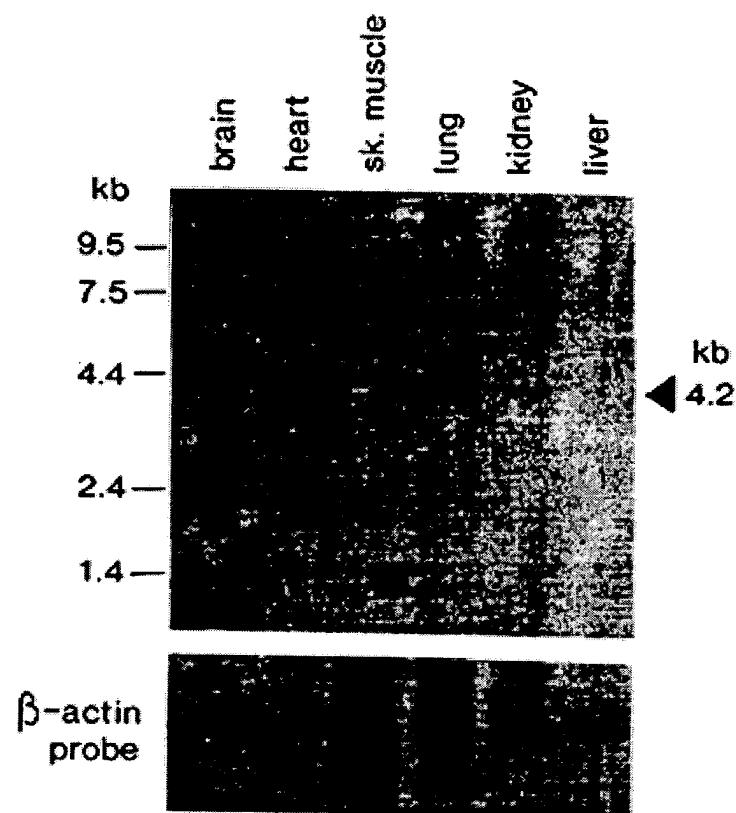


FIG. 11A

FIG. 11B

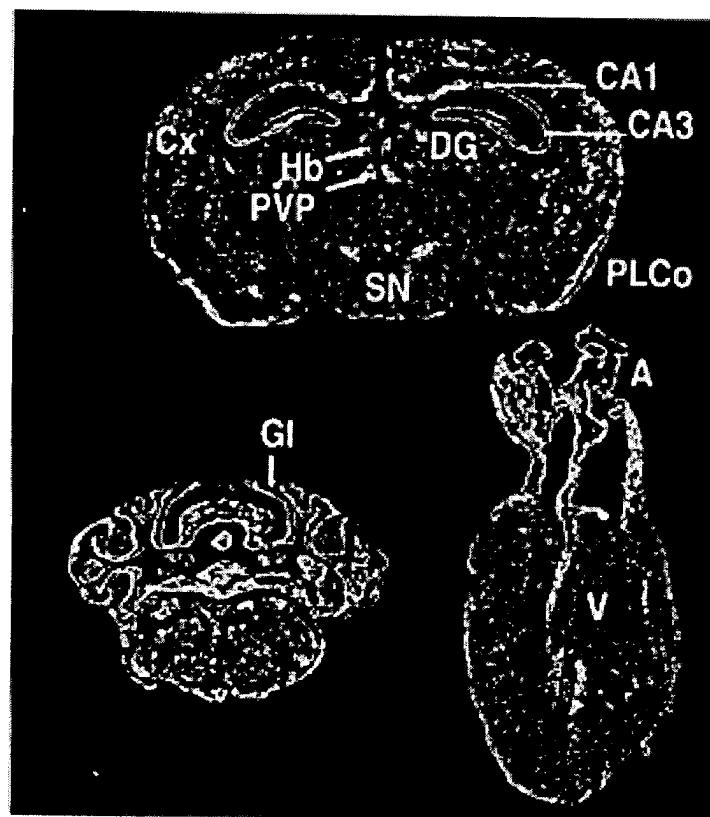


FIG. 11D

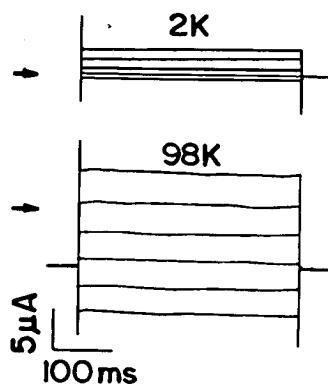


FIG. 12A

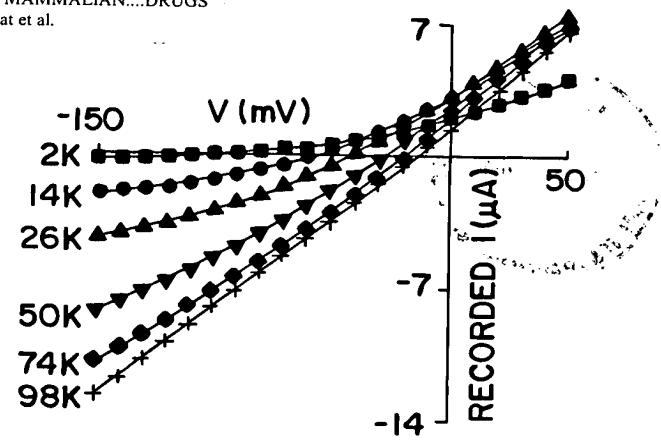


FIG. 12B

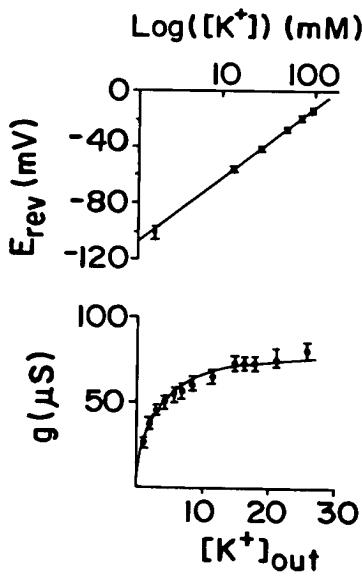


FIG. 12C

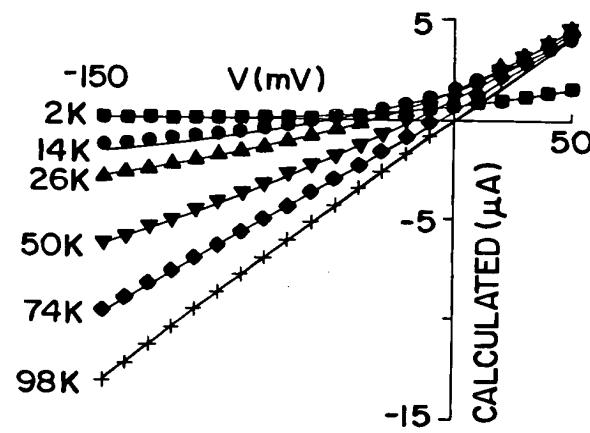


FIG. 12D

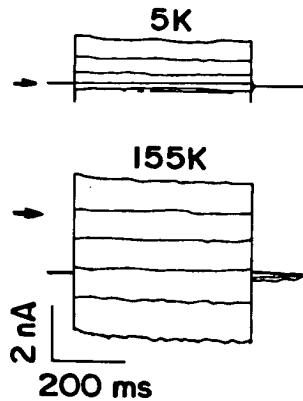


FIG. 12E

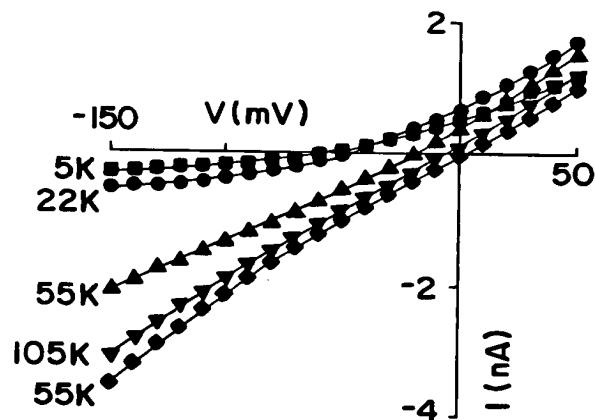


FIG. 12F

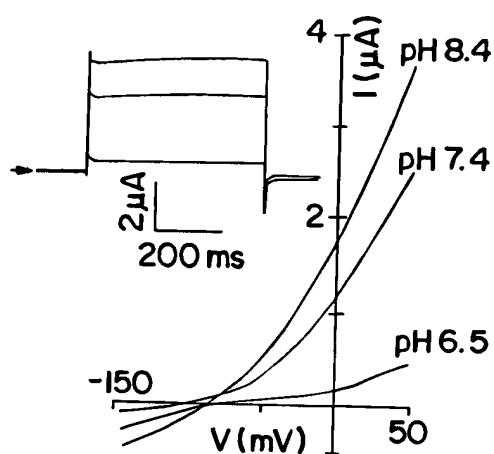


FIG. 13A

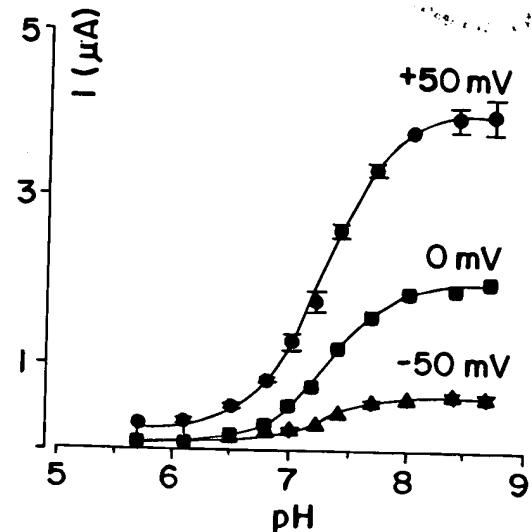


FIG. 13B

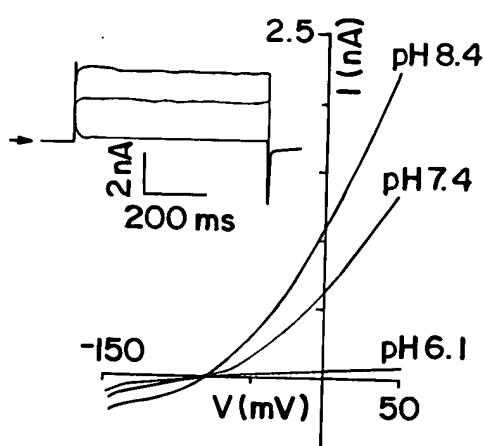


FIG. 13C

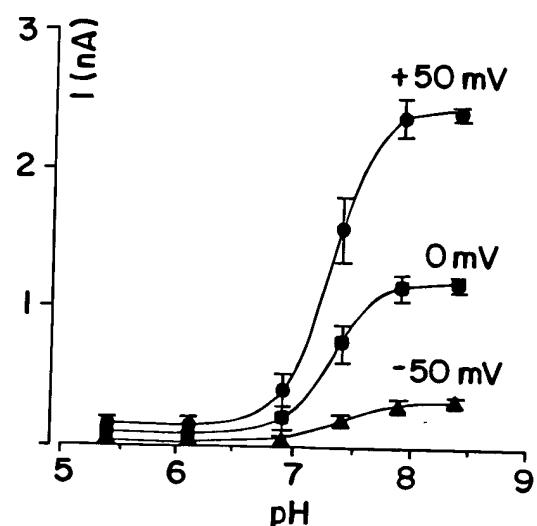


FIG. 13D